Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications Capability	)	
to All Americans in a Reasonable and Timely	)	CC Docket No. 98-146
Fashion, and Possible Steps to Accelerate	)	
Such Deployment Pursuant to Section 706	)	
of the Telecommunications Act of 1996	)	

COMMENTS OF BELLSOUTH CORPORATION

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EXECUTIVE SUMMARY

The advanced services market is exploding with new technologies, new applications and ever greater consumer demand. Firms of every description, from the largest telecommunications carriers to the newest Internet service providers and competitive carriers, are bringing their expertise and creativity to bear to satisfy burgeoning consumer demand. High-end business users, especially in densely populated areas, already have access to a wide array of broadband networking and access capabilities. Residential consumers, small and rural businesses, schools, libraries and health care providers are hoping for similar choices.

BellSouth has been a leader in pioneering innovative services and deploying new technologies to support advanced applications, and is now one of the first carriers in the country to make asymmetrical digital subscriber line ("ADSL") technology commercially available. Incumbent local exchange carriers ("ILECs"), such as BellSouth, are well-positioned to bring advanced services to the residential, rural and small business market. Yet, neither BellSouth nor any of the Bell Operating Companies ("BOCs") comes close to dominating the advanced services market. In fact, due to regulatory handicaps, including interLATA restrictions, the BOCs have only a small share of the overall advanced services market, and are especially hamstrung in providing advanced end-to-end networking services such as ATM and frame relay.

Advanced services, both connection services such as ADSL and networking services such as ATM and frame relay, have the potential to boost the communications power of residential and business customers. Through Section 706, Section 10, and other provisions, the Telecommunications Act of 1996 ("1996 Act") *directs* the Commission to take action so that American consumers can gain access to the most sophisticated communications networks and services in the world. The BOCs and other ILECs have considerable expertise in network design

and operation and a long history of serving the telecommunications needs of even the smallest and most remote customers. However, due to regulatory constraints these important service providers have fewer incentives and curtailed ability to compete vigorously in the advanced services market.

Section 706 of the 1996 Act provides the Commission with an opportunity to inject a potent dose of competitive adrenaline into the advanced services market. In conducting its Section 706 inquiry, the Commission can identify concrete steps to accelerate deployment of advanced telecommunications capabilities to all Americans, such as eliminating dominant carrier regulation of services in which the ILECs have no market power. Moreover, through forbearing under Section 10 of the Communications Act, reasonably interpreting Section 251 requirements as applied to new offerings by the ILECs, and promptly and decisively granting Section 271 petitions for interLATA entry and other regulatory relief, the Commission has the power to make good on the promise of Section 706.

Section 706's explicit goal is to ensure that advanced services proliferate in a competitive market free from the distortions of unnecessary regulation. Forbearance is a key tool to be used in accomplishing this goal. History teaches that regulation does not create competition, but can only serve as a crude substitute for it in instances where providers face no competition. In competitive market conditions, regulation does not promote incentives for investment or innovation -- it stifles them. Where the market itself is driving investment and innovation, the Commission can best serve the public interest by eliminating unnecessary regulatory requirements, such as the regulatory burdens placed on ILECs but on none of their telco, cable or other advanced services competitors. Given incipient competition in advanced access services and robust competition in advanced networking services, coupled with rigorous safeguards in place to ensure

access to local exchange facilities, the Commission should immediately eliminate unnecessary impediments to the rapid deployment of advanced services by ILECs.

In its assessment of the advanced services market, the Commission will find that, while significant investment may be required to enter this market, entrants are nonetheless many, and market entry barriers are few. ILECs, however, inexplicably remain hamstrung by unnecessary regulatory requirements. Therefore, in choosing a "regulatory model" for advanced services, the Commission must select a construct that fits a diverse set of service providers who use a wide variety of technologies and are regulated presently under regimes as different as Title II, Title III, and Title VI of the Communications Act. The Commission should not view this proceeding as an opportunity to bring new service providers within Title II's ambit or to increase Title II restraints, but rather to release competitive services from unwarranted Title II regulation.

Deregulation of other sectors of the telecommunications market has undeniably stimulated innovation and infrastructure investment. Likewise, the optimal model for advanced services is one where the Commission adopts a "hands off" approach. As with enhanced or information services, competitors in the advanced services market are more likely to respond to changing customer needs if they have competition from the ILECs to stimulate innovative service development and deployment of advanced technology. Today, on the brink of advanced services competition from numerous, varied providers, the Commission needs to rediscover its faith in the competitive market to provide the most efficient and effective market stimulus, for the benefit of all consumers.

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COMMENTS OF BELLSOUTH CORPORATION

BellSouth Corporation, for itself and its affiliated companies ("BellSouth"), submits these comments in response to the above-captioned Notice of Inquiry ("NOI").[1] Section 706's goal is the rapid deployment of advanced telecommunications capability to *all* Americans. Advanced networking services and access services to high-end users are already highly-competitive. This inquiry will show that the mass market for advanced, high-speed access to the Internet is teeming with incipient competition -- explosive demand and open entry are driving numerous providers to develop multiple broadband "pipelines" into the home or business. In light of these competitive conditions -- where no participant enjoys an incumbency advantage or has the ability to exercise market power -- the Commission must allow all entrants, ILECs included, to compete unhindered by regulatory roadblocks. Market forces will guarantee the most efficient and effective deployment of advanced services.

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1 *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket 98-146, Notice of Inquiry, FCC 98-87 (rel. Aug. 7, 1998) ("*NOI*").

I. INTRODUCTION & SUMMARY

> "*When Congress passed the Telecommunications Act of 1996, it envisioned a world in which the cable and telephone industries would compete in each others' markets . . . . not many people thought at that time that the true catalyst for competition would be Internet access. But the race is on. . . . [The FCC's] job is to make sure that there is a race, and one in which no competitor is advantaged or disadvantaged by government.*"[2]

The explosive growth of the Internet and the proliferation of new applications for broadband networks are driving demand by all users for greater bandwidth, both for advanced networking and access capability. For high-end business users, this demand is being met today, as large corporate or institutional entities can select from among several competing providers to fulfill their broadband requirements. Similar options, however, are only beginning to reach the mass market. ILECs everywhere are endeavoring to fulfill the growing demand for advanced services as quickly as possible within the regulatory constraints that they face.

BellSouth, for example, is one of the first competitors to deploy digital subscriber line ("DSL") technology to provide high-bandwidth capability that far surpasses, and indeed cannot compare with, plain old telephone service ("POTS"). With a long history of serving residential, rural and small business customers, BellSouth and other ILECs are well-positioned to provide advanced services to all of these segments. But providing widescale broadband capability is a considerable feat, even for an ILEC. It requires developing technologies, retrofitting loops or laying new networks, investing in costly new equipment and training service personnel. With these tasks accomplished, an ILEC is then handicapped in deploying advanced services by uneven pricing, tariffing and other regulatory requirements, in addition to interLATA restrictions that bar

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[2] Chairman William Kennard, Remarks to National Cable Television Association (May 5, 1998) ("*NCTA Remarks*").

the BOCs from providing advanced end-to-end networking services such as frame relay and ATM across LATA boundaries.[3]

The ILECs are only one class of competitors rushing to deploy services that extend high-bandwidth capability to the home and business. Satellite operators currently offer nationwide high-speed Internet access. Cable companies (soon to include AT&T) are upgrading their ubiquitous cable networks and are beginning to offer consumers high-speed cable modems. Competitive local exchange providers ("CLECs") are providing high-speed data services using their extensive fiber networks or by purchasing unbundled network elements from ILECs and installing their own DSL equipment. Terrestrial wireless technologies also are being deployed to provide broadband capability in a number of spectrum bands such as 24 and 38 GHz. Other terrestrial wireless providers, including local multipoint distribution service ("LMDS") providers, multipoint distribution service ("MDS") providers and even digital television broadcasters, soon will become full-fledged providers of advanced services. For competitive assessment purposes, these many solutions for advanced communications capability over the "final mile" form an advanced services market that is fast becoming intensely competitive.

Because advanced services cross conventional industry and regulatory lines, market participants currently face disparate levels of regulation, but for no rational reason. No entrant dominates the advanced services market, thus no class of competitors should be subject to arduous regulation designed to protect against an abuse of market power. An ILEC's ownership of local exchange facilities does not give it a competitive advantage in providing advanced services, particularly as its local exchange facilities are subject to mandatory unbundling and resale

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3 *See* 47 U.S.C. § 271.

obligations. In fact, the cable industry, not the ILECs, enjoys the greatest share of the advanced access market, and long-distance carriers have a clear advantage in the advanced networking services market. Subjecting ILECs -- or any broadband suppliers, for that matter -- to cumbersome regulatory requirements for advanced services is unnecessary and only discourages their full participation in the market, inhibits their incentive to develop innovative service offerings, encumbers their ability to respond to shifting market conditions, and ultimately delays widescale deployment and increases the cost of advanced services for consumers.

As part of Section 706 of the 1996 Act, Congress required the Commission to undertake this comprehensive examination of the "availability of advanced telecommunications capability to all Americans."[4] The Commission's mandate is explicit -- if the deployment of advanced services is not progressing in a reasonable and timely fashion to all potential users, the Commission *must* take *immediate* action to accelerate deployment of advanced services by removing regulatory restraints that chill advanced services investment and inhibit competition.[5]

As this inquiry will bear out, the appropriate incentive for accelerating deployment of advanced telecommunications capability to all Americans is consumer demand. The competitive conditions that underlie the advanced services marketplace obviate the need for a regulatory surrogate. Numerous participants are offering advanced services using innovative, competing technologies, and no supplier can unilaterally exercise market power. The solution, therefore, is not to subject cable operators or other broadband providers to Title II regulation, but instead, to eliminate regulation for advanced services. With reasonably competitive conditions,

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4 *See* Pub. L. 104-104, Title VII, § 706(b), Feb. 8, 1996, 110 Stat. 153, reproduced in the notes under 47 U.S.C. § 157 ("*Section 706*").

5 Section 706(b).

"the market achieves economically efficient use of resources more quickly and more reliably than government regulation."[6] To stimulate innovation and investment in advanced services infrastructure, as Congress prescribed, the Commission must eliminate artificial restraints on competition by all participants, including the ILECs, and enable the developing marketplace to select the technologies and service providers that best meet consumer demand. This requires, at minimum, that the Commission take the following pro-competitive measures:

First, accelerating advanced services to all Americans calls for prompt approval of Section 271 applications to permit BOCs to offer all telecommunications services, including advanced services, on an interLATA basis, as each one of their advanced services competitors is already free to do. Given the rapid pace of technological change, regulatory limbo threatens to stifle the development of a competitive market for advanced services. The Commission must strive to reduce regulatory delay and uncertainty that impede efforts to deploy advanced services. Moreover, permitting BOCs to provide interLATA services gives them an obvious incentive to construct capacity for data backbone networks on which advanced access customers rely for their end-to-end communications capability. Giving BellSouth the ability to provide full-service networks will thus stimulate use of advanced access services sold by BellSouth as well as its competitors.

Second, the Commission must aggressively and deliberately exercise its Section 10 forbearance mandate to grant relief from any applicable dominant carrier pricing, tariffing, and Section 214 requirements for ILEC provision of advanced services, and to eliminate other

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6 Gregory L. Rosston and Jeffrey S. Steinberg, "Using Market-Based Spectrum Policy to Promote the Public Interest," FCC Working Paper (Jan. 1997), at 5.

unnecessary regulation. ILECs do not possess market power in the advanced services market; regulating them as if they did contravenes legislative intent and sound economic policy.

Third, in assessing Section 251's network elements,[7] the Commission must adopt a reasonable interpretation of Section 251's unbundling, collocation and resale provisions that reflects the realities of the advanced services marketplace and assures that ILECs will have incentives to offer advanced services on an efficient, integrated basis. Because the ILECs' ownership of local exchange facilities confers no incumbency advantage for advanced services, ILECs should be free to respond to consumer demand and to take the risks and reap the rewards of their business decisions, just like other entrants. Imposing Section 251 obligations on newly-emerging advanced services does not remove barriers to infrastructure investment, as Congress directed, but rather erects formidable new barriers. Through appropriate exercise of its authority to interpret the Act, the Commission can provide vital leadership in the drive to open advanced services to unfettered competition. The Commission should also encourage states to take a similar temperate approach to advanced services unbundling and other obligations.

Above all, while the statute expressly directs the Commission to promote competition in the telecommunications market, the Commission must not treat this proceeding as merely another local competition regulation proceeding. Section 706 is directed at promoting "advanced telecommunications incentives;" Section 251 and other provisions of the 1996 Act address the regulation of the local exchange market. Neither this proceeding, nor the related

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7 *See* 47 U.S.C. § 251(d)(2).

Notice of Proposed Rulemaking,[8] provide a forum in which to revisit already settled local competition concerns that were fully and exhaustively addressed elsewhere.[9]

II. WHAT ARE ADVANCED SERVICES?

> *"[T]he rise of the Internet has changed business plans again. Companies can now compete to sell high speed Internet access."*[10]

A crucial determination in this inquiry concerns what services were meant to be included within the scope of Section 706. By using the term "advanced," Congress deliberately selected an evolving concept; by not selecting the familiar basic/enhanced dichotomy, Congress implied a broader reach than *Computer III's* enhanced model, and by speaking in terms of "capabilities" rather than particular services, Congress signaled the need for a new, broad-based regulatory paradigm that is "better suited to the fluid types of communications capabilities made

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8 *Deployment of Wireline Services Offering Advanced Telecommunications Capability, et al.*, CC Dockets No. 98-147, 98-11, 98-26, 98-32, 98-78, 98-91, CCB/CPD No. 98-15, RM 9244, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 98-188 (rel. Aug. 7, 1998) ("*Section 706 MO&O/NPRM*").

9 *See, e.g., Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (1996), *aff'd in part and vacated in part sub nom. Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utilities Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *writ of mandamus issued sub nom. Iowa Utilities Bd. v. FCC*, No. 96-3321 (8th Cir. Jan. 22, 1998), *petition for cert. granted*, 118 S. Ct. 879 (1998) ("*Local Competition Order*"), Order on Reconsideration, 11 FCC Rcd 13042 (1996), Second Order on Reconsideration, 11 FCC Rcd 19738 (1996), Third Order on Reconsideration and Further Notice of Proposed Rulemaking, FCC 97-295 (rel. Aug. 18, 1997), *aff'd sub nom. Southwestern Bell Telephone Company v. FCC*, Case Nos. 97-3389, 97-357, 97-3663, and 97-4106, (8th Cir., August 10, 1998), *further reconsideration pending*. Pursuant to Section 251 of the Act, the states also have adopted rules governing unbundling of local networks, collocation among carriers and pricing of ILEC services and network elements.

10 Chairman William E. Kennard, "A Broad(band) Vision for America," Remarks to the Federal Communications Bar Association (June 24, 1998) (*"FCBA Remarks"*).

possible by the Internet."[11] Evaluating the degree of deployment and competition in the advanced services market requires the Commission to take an expansive view of advanced communications capability that will outlast today's regulatory and technological constructs. For this purpose, advanced services must include, at minimum, all services -- regardless of technology or transmission medium and regardless of preexisting regulatory classification -- which offer consumers a high level of bandwidth for efficient, interactive voice and data communications.

A. The Relevant Product Market

In estimating the degree to which a particular market is competitive, the Commission typically begins by identifying the relevant product (or service) market and the relevant geographic market.[12] The product market is usually defined as the group of products or services for which there are no close demand substitutes.[13] Under this standard, advanced services broadly encompass all current and planned substitutable broadband services regardless of technology or transmission medium.[14] Section 706's policy goals are premised on technological

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11 *See* Barbara Esbin, "Internet Over Cable: Defining the Future in Terms of the Past," OPP Working Paper Series 30 (Aug. 1998) ("*Cable Working Paper*"), at 116.

12 *See e.g., Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy and Rules Concerning the Interstate, Interexchange Marketplace,* Second Report and Order in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, 12 FCC Rcd 15756, 15804 (1997) ("*LEC In-Region Interexchange Order*"), *modified*, 12 FCC Rcd 8730 (1997) ("*LEC Classification Order on Reconsideration*"), Order, DA 98-556 (rel. March 24, 1998), *further reconsideration pending*; *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier,* Memorandum Opinion and Order, 11 FCC Rcd 3271, 3285 (1995) ("*AT&T Non-Dominance Order*").

13 *See, e.g., LEC In-Region Interexchange Order,* 12 FCC Rcd at 15782.

14 In the inauguration of commercial mobile radio service ("CMRS"), the Commission deliberately defined the class of services expansively because market conditions showed that "the potential for competition among all CMRS services appears likely to increase over time due to expanding consumer demand and technological innovation."

neutrality, for Section 706 expressly defines advanced telecommunications capability "without regard to any transmission media or technology," enabling users to transmit and receive voice, data, graphics and video "using any technology."[15] Notwithstanding the Commission's commencement of a companion rulemaking governing the deployment of advanced "wireline services,"[16] consumers do not view different physical facilities as offering different services. In fact, it is the "capability" of the services offered, not the means of transmission, that determines the market.

Nonetheless, the Commission should draw a distinction today between advanced access services, which connect the user to broadband networks, and advanced end-to-end networking, including backbone transport services. Although these services may ultimately blend together, they presently serve distinct functions that are not substitutable for all consumers.

With respect to advanced "networking" services, such as packet switching, the defining criterion should be the substitutability of the service offered, and not the amount of bandwidth used to provide the service. Such advanced services should be classified according to functionality, and are not technology-specific.

Similarly, with advanced access services, capabilities that are commonplace among large, sophisticated business users may nevertheless be "advanced" for small business, rural and

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Implementation of Sections 3(n) and 332 of the Communications Act, et. al, GN Docket No. 93-252, PR Docket Nos. 93-144, 89-553, Third Report and Order, 9 FCC Rcd 7988,7996 (1994) ("*CMRS Regulatory Parity Order*"). The developing advanced services market similarly manifests growing consumer demand and advancements that warrant a broad market definition.

15 Section 706(c)(1).

16 *See Section 706 MO&O/NPRM* at ¶ 3.

residential users, which necessitates that the Commission distinguish by type of end user.[17] Large business or institutional users typically have extensive internal networks that provide the economies needed to support high-speed access lines. These high-end business or institutional users already have high-speed broadband connections. Most residential, rural and small business users, however, do not have comparable access capability, which constitutes the linchpin to bringing advanced services within the grasp of all Americans.

DSL-equipped copper phone lines are not the only cost-effective means of delivering greater bandwidth to the mass market. As illustrated below, substitutable high-speed broadband access services currently are being offered by cable operators and satellite providers, with several other assorted technologies following close behind.[18] For competitive analysis purposes, the present-day advanced services access market must include all these alternative services that functionally serve as a local loop for high-bandwidth access capability, regardless of the technology used or how the Commission currently classifies them.[19]

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17 *See* Robert W. Crandall and Charles L. Jackson, "Eliminating Barriers to DSL Service," Working Paper Prepared for Keep America Connected! (July 1998) ("*DSL Barriers Paper*"), at 16 (observing that residential consumers and small businesses rarely have access to high-speed capabilities, like fiber running to the basement, found in today's major office buildings).

18 *See Cable Working Paper* at *v* ("The communications and communications services made possible by the Internet are fundamentally unlike those provided in the past over technologically separate public switched telephone network, data networks, and cable television systems, in that a single medium is capable of delivering nearly any type of communications service on an integrated basis.").

19 The Commission cannot simply disregard the high-speed capacity of wireless service providers in some contexts and integrate them in others. In the *Universal Service Order*, for example, the Commission concluded that universal support mechanisms are competitively neutral, "because, as with schools and libraries, health care providers may request *wireline or wireless* telecommunications links -- including cellular and satellite -- at local calling rates to obtain access to an Internet service provider." *Federal-State Joint*

Broadband today implies services that are capable of performing functions beyond those possible over unenhanced copper wire, namely POTS. Consumers desiring high-capacity services find POTS a poor substitute.[20] High-bandwidth in today's mass market means a digital service with a transmission rate above 56 kbps. Today's advanced access services therefore encompass all services that provide digital transmission paths that utilize either wireline or wireless technology to transmit voice or data to the mass market at speeds above 56 kbps. The Commission should be careful, however, to define terms such as "high speed" and "broadband" flexibly. Services that are widely viewed as advanced today, such as DSL and cable modems, may use variable speeds or become less "advanced" in the future.[21]

B. The Relevant Geographic Market

Defining the geographic market for purposes of competitive assessment requires the Commission to identify the geographic area within which consumers have similar choices for a particular product or service.[22] Advanced networking services, and high-end business or institutional user access services, today comprise a national, or even global, marketplace. Consumers use advanced networking services for local, national, and international

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Board On Universal Service, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 9160 (1997) (*"Universal Service Order"*) (emphasis added).

20 *See* Christopher Mines, *et al.*, "Broadband Hits Home," THE FORRESTER REPORT, Vol. 5, No. 4 at 12 (Aug. 1998), attached as Exhibit A ("Once consumers get a taste of high-speed, always-on connections, they'll never go back to dial-up.").

21 *See* Petition of US West for Forbearance from Regulation as a Dominant Carrier in the Phoenix, Arizona MSA, CC Docket No. 98-157 (filed Aug. 24, 1998) (*"US West Phoenix Petition"*), at 11 (defining relevant high-capacity services market as "dedicated high capacity circuits provisioned at capacities of DS-1 and above . . . [which] may be used to transmit voice, data, or both, and may utilize wireline or wireless technology.").

22 *See, e.g., LEC In-Region Interexchange Order,* 12 FCC Rcd at 15792.

communication, without regard to the geographic location of either the service provider or the other users on the network.

Mass market access services nonetheless remain temporarily local inasmuch as the availability of such services is tied to the customer's premises.[23] Similar to the contemporary multichannel video programming distribution ("MVPD") market, consumers desiring high-bandwidth service at their home or business can select from among those high-speed providers that serve the geographic area in which the customer is located.[24] However, due to increased interconnection among providers and networks and decreased distance-sensitivity in telecommunications costs, residential consumers can be served by providers who do not have a substantial local presence. For instance, some service providers, such as satellite and terrestrial wireless operators, have coverage areas that are national or regional in scope. The very nature of advanced services, and the ability of carriers to interconnect, may mean that the Commission must find a new way to define "geographic market" for assessing competition among these new services.

In sum, the Commission should avoid an overly narrow construction of the term "advanced services," given the agency's expansive responsibility under the Act to ignite

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23 *See U.S. West Phoenix Petition*, at 1 (requesting forbearance within Metropolitan Statistical Area).

24 *See Annual Assessment of the Status of Competition in Markets for the Delivery of Video* Programming, CS Docket No. 97-141, Fourth Annual Report, 13 FCC Rcd 1034, 1107 (1998) ("*1997 MVPD Competition Report*") (reaffirming that the relevant downstream MVPD market is local and its extent is defined by overlapping "footprints" of various service providers which culminate in the potential MVPD choices available to a typical household). *See also NYNEX Corp., Transferor, and Bell Atlantic Corp., Transferee,* 12 FCC Rcd 19985, 20017 (1997) (*"Bell Atlantic/NYNEX Order"*) (treating as a single geographic market "an area in which all customers in that area will likely face the same competitive alternatives" for a particular service).

competition in all sectors of the communications market. The market for communications services is not a number of discrete segments but rather a continuum from POTS to the most sophisticated, bandwidth-intensive services. By relying on the market, the Commission can ensure that services that are advanced today will be deployed to all Americans tomorrow.

III. BELLSOUTH'S ADVANCED SERVICE OFFERINGS

As the following overview of BellSouth's major advanced service initiatives demonstrates, BellSouth has been a leader in making advanced services available to consumers within its LATA boundaries, as well as deploying advanced communications capabilities throughout its networks. Notwithstanding its progress, however, BellSouth could do substantially more to tailor its services to customer demand and evolving market conditions if regulatory barriers to full ILEC participation were removed.

A. ADSL

DSL promises an affordable service aimed at residential and small business users. DSL's faster transmission rate downstream (1.5 Mbps) and above than upstream (256 Kbps) makes it ideal for consumers who utilize the Internet. Moreover, DSL provides point-to-point virtual circuit connectivity.

DSL's deployment, however, faces certain technical challenges. DSL performance is inversely tied to distance from central office equipment, which means that the service may not be available at all to customers beyond a few miles from a central office. In addition, phone companies have spent decades optimizing their network for basic telephone services. Copper loops equipped with load coils to improve voice transmission may not be suitable for DSL

capability. In addition, DSL may exacerbate crosstalk between adjacent inside wires or different wire pairings within the same cable, which could seriously affect the service's performance.[25]

BellSouth conducted a market trial of ADSL service in Birmingham, Alabama in October 1997, and on September 3, 1998, initiated commercial ADSL service in New Orleans. BellSouth plans to roll-out ADSL service in the following major markets this month:

Birmingham	September 14
Atlanta	September 14
Charlotte	September 21
Raleigh	September 21
Jacksonville	September 28
Fort Lauderdale	September 28

BellSouth expects to follow with service deployment in over twenty additional metropolitan areas in its nine-state region in 1999. Retail prices for BellSouth's ADSL service start at $29 for the service alone and $49.95 for combined ADSL and Internet service. In addition to direct sales, BellSouth is offering its ADSL service openly to Internet service providers, CLECs and IXCs, which may facilitate wide availability for the mass market.

On August 18, 1998, BellSouth filed Transmittal No. 476 to establish a commercial offering for interstate DSL as a special access service between end-users and Internet service

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[25] In recognition of the extent of low grade inside wiring, combined with the high costs for consumers to rewire homes, BellSouth is supporting adoption of a wire quality standard for simple inside wiring. *See Review of Sections 68.104 and 68.213 of the Commission's Rules Concerning Connection of Simple Inside Wiring to the Telephone Network,* CC Docket No. 88-57, Order on Reconsideration, Second Report and Order and Second Further Notice of Proposed Rulemaking, 12 FCC Rcd 11897 (1997); Comments of BellSouth Corporation (July 17, 1997); Ex Parte Memorandum in Support of Proposed Rule Changes of BellSouth Corporation (Apr. 28, 1998).

providers. On September 1, the Commission suspended the tariff for one day and commenced an investigation into the interstate nature of the service.[26]

B. ISDN

For purposes of assessing the competitiveness of the advanced services market, Integrated Services Digital Network ("ISDN") services must also be considered "advanced." ISDN became commercially available in the early 1990s.[27] BellSouth's projected deployment of basic rate and primary rate ISDN service is set forth on Exhibit G.

C. Fiber-to-the-Home

BellSouth continues to integrate advanced capabilities into its core network and to develop and deploy high-capacity fiber networking capability across its region. BellSouth has begun the widespread deployment of fiber-to-the-curb and fiber-to-the-home for new residential developments and expects to begin substantial replacement of high operating cost metallic cable plant with fiber-to-the-curb in the near future. Even accounting for fiber's technical advantages over other transmission media, and using fiber for all new development and economic replacement opportunities, it will take many years for a large portion of BellSouth's network to be converted to an all fiber network.

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26 *BellSouth Telecommunications, Inc., BellSouth Tariff FCC No. 1, BellSouth Transmittal No. 476, Order Suspending Tariff and Designating Issues for Investigation,* DA 98-1734 (rel. Sept. 1, 1998). The suspension of the BellSouth's ADSL tariff provides a concrete example of how unnecessary regulatory requirements and inject uncertainty in the marketplace.

27 *See Filing and Review of Open Network Architecture*, CC Docket No. 88-2, Memorandum Opinion and Order, 6 FCC Rcd 7646, 7657 (1991).

The Commission's assertion that the incumbent LECs have large volumes of excess fiber capacity[28] is erroneous and based upon a misinterpretation of data in the Commission's ARMIS Report 43-08. This report summarizes fiber utilization in terms of total strand miles (or Km) of fiber existing and fiber strand miles in use (*i.e.*, miles of fiber lit). The data on strand miles in these reports, however, includes isolated and unusable fiber strands. For example, when a fiber cable is placed in the feeder network it extends from the central office to feed several remote terminal locations along the fiber route. Generally, as a remote terminal is encountered, several strands of fiber within the cable are cut, and the central office side of each cut strand is terminated in the equipment at the remote terminal. The remainder of each cut strand, while still carried within the fiber cable beyond the remote terminal, is no longer available for use. It is cut off from the central office, isolated from the Public Network, and has virtually no potential for future use. Thus, interpreting this data as an accurate measure of usable idle capacity is inappropriate.

To the extent the Commission wishes to determine the amount of idle fiber capacity, a more appropriate measure is the percentage of idle fibers terminated in ILECs' central offices. This approach correctly removes the distortion associated with isolated fibers. Moreover, fiber capacity, unlike copper capacity, is not limited by distance. By not factoring distance into the calculation of idle capacity, this approach offers a more accurate portrayal of true idle capacity.

D. Frame Relay and ATM Switches

Frame relay and similar broadband networks are widespread among high-end business users and may one day provide a route to the residential broadband market. Originally

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28 *See NOI* at ¶ 23.

designed to add wide-area capability to local-area networks ("LANs"), high-speed frame relay networks are growing rapidly and are increasingly evolving to serve other applications.

The following chart chronicles BellSouth's deployment of Frame Relay (BSTDX-9000) and ATM switches in its network over 5 years. Set forth below are the total number of switches in service, by switch type, as of the year specified.

DATE	FRAME RELAY	ATM SWITCHES[29]		
	BSTDX-9000	CBX-500	F-150	Total ATM
Dec 1994 (est)	20	0	5	5
Dec 1995 (est)	58	0	7	7
Dec 1996	88	0	7	7
Dec 1997	136	6	7	13
YTD 1998	193	12	7	19
Dec 1998 (proj)	235	17	7	24

Although the above summary demonstrates that BellSouth is aggressively deploying advance telecommunications capability, the following discussion of other products and service providers in the market illustrates that BellSouth is far from dominant in this arena.

IV. THE ADVANCED SERVICES MARKET IS CHARACTERIZED BY ACTUAL AND INCIPIENT COMPETITION; NO FIRM IS DOMINANT

The Commission should assess the competitive potential of advanced services, and the corresponding ability of any firm to exercise market power in that market, by using its familiar approach of first identifying the market and its participants and then analyzing factors such as relative market shares, demand elasticity and supply elasticity of the market, and the cost structure,

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[29] The F-150 switches indicated are the original North Carolina Information Highway (NCIH) switches (Fujitsu). BellSouth has contracted with North Carolina to replace those switches with the CBX-500's (Ascend) over the next year as NCIH transitions to the current platform for video and ATM.

size and resources of the entrants.[30] A competitive market is characterized by high demand and supply elasticities and several participants, none of which has an unfair size or market share advantage.[31] The Commission need not detect a perfectly competitive market to find regulation unwarranted, only one in which no firm possesses or can unilaterally exercise market power.[32] As the following analysis shows, the market for advanced connection services is brimming with incipient competition, and the advanced networking services market is well-developed and intensely competitive today. No firm is dominant or has the ability to exercise market power in either case. The advanced services market is therefore ripe for deregulation.

A. Many Actual And Potential Competitors Are Entering The Advanced Services Market

An unprecedented universe of providers have entered or are poised to enter the rapidly growing market for advanced services. In particular, numerous entrants in BellSouth's territory, deploying a variety of technologies, have the ability to become formidable competitors in the broadband arena.

1. Cable Operators

> *"Cable enters this race with some very attractive attributes. You've got infrastructure. Your fiber and coaxial plant can carry information up to one thousand times faster than simple copper pair. And you have pioneering companies that have shown how convergence can work."*[33]

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30 *See AT&T Non-Dominance Order*, 11 FCC Rcd at 3293; *Comsat Corporation*, Order and Notice of Proposed Rulemaking, FCC 98-78, at ¶ ¶ 24, 50, 66 (rel. April 28, 1998) ("*Comsat Order*").

31 *AT&T Non-Dominance Order*, 11 FCC Rcd at 3293

32 *Id.* at 3292.

33 Chairman Kennard, *NCTA Remarks*.

By far, the fastest spreading broadband technology today is cable.[34] Backed by the vast financial resources of the major cable multiple system operators ("MSOs"), which may soon include AT&T, cable companies are furiously transforming their cable networks into hybrid fiber-coaxial cable networks capable of delivering broadband "at lightning speed"[35] to the mass market, where they can leverage their high MVPD penetration rates. Embedded cable infrastructure now passes 97.1 percent, and serves 66 percent, of homes in the United States.[36] With their ubiquitous cable plant passing virtually every home in the country, cable operators are uniquely positioned to offer, and have been vigorously rolling out, a high-bandwidth cable modem solution that completes the local loop for data services.

Cable modems offer transmission speeds capable of reaching a downstream rate of 10-to-30 Mbps.[37] and are increasingly two-way services capable of sending and receiving data at equal speeds.[38] Rigorous competition among cable modem manufacturers is driving down production costs, from a current retail price of $350 to an estimated $150 by the end of 1999.[39] The computer industry has embraced cable modem technology by investing heavily in cable companies (*e.g.* Microsoft's $1 billion investment in Comcast) and by building specific ethernet circuitry into computers (*e.g.* the new Apple IMAC) that provides a direct connection to cable

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34 *See* Exhibit A at 2.

35 Chairman Kennard, *FCBA Remarks.*

36 *NOI* at ¶ 39 (citing *1997 MVPD Competition Report*).

37 *See Cable Working Paper* at 77 ("The speed of cable modems offers significant advantages in terms of speed of connection and data transmission over other equipment currently available to connect end users to online services, the Internet and the World Wide Web.").

38 *Id.* at 76.

39 Exhibit A at 6.